Chem 437S & 1263S: Bioinorganic Chemistry (Syllabus)

*Fundamental concepts of **bioinorganic chemistry** will be discussed with emphasis on reaction mechanisms and structure/function relationship of metalloenzmes and models. Topics will include hydrolytic metalloenzymes such as carbonic anhydrase, carboxypeptidase, and nuclease and polymerase as well as redox active enzymes in photosynthesis and in oxidative phosphorylation as well as nitrogenase and heme enzymes. In addition, organometallic coenzyme vitamin-B12 will be covered. Application of computation in bioinorganic will be discussed.*

References:

Biological Inorganic Chemistry (Bertini, Gray, Stiefel, Valentine)
http://search.library.utoronto.ca/details?9422641&uuid=41aa1535-0494-4f51-9899-cdd2dd147e58
Bioinorganic Chemistry (Rehder)

Topics

Hydrolytic metalloenzymes
Oxidative phosphorylation
Photosynthesis
Nitrogenase
Vitamine-B12
Heme enzymes
Computation of a model bioinorganic catalyst

One midterm test in class (30%); Assignment (20%); Final exam (50%)

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